

IPER

1. Gas spring damper unit for a motor vehicle comprising a cylinder casing (1) and a cylinder piston (4) shiftable in the cylinder casing (1) and having a piston rod (5), wherein the cylinder piston (4) is sealed relative to the cylinder casing (4) by a sealing element (12) and wherein the piston rod (5) is connected to the cylinder casing (1) by rolling bellows (8), where by a spring damper chamber (13) becoming smaller upon spring compression and a damper chamber (14) becoming larger upon spring compression are formed, wherein the two chambers are connected by a throttle acting in two directions and disposed in the cylinder piston (1) and wherein this throttle comprises one or several overflow throttles (15), characterized in that

- the overflow throttles (15) have in each case a different flow resistance relative to the flow passage direction, and
- the overflow throttles (15) comprising in each case a passing through throttle bore hole with at least one cross-sectional narrowing, wherein
- the functional effective center of gravity of all flow resistances of the overflow throttle (15) is disposed at a point outside of the radial central axis of the cylinder piston (4), and

-the throttle bore hole is dimensioned such that critical Reynolds number for the transition from the laminar flow kind to the turbulent flow kind occurs within the possible piston speeds and in at least one passage flow direction.

2. Gas spring damper unit according to claim 1 characterized in that the functional effective center of gravity of all flow resistances of the flow through throttle (15) is disposed on the same side of the cylinder piston hole (4).

3. Gas spring damper unit according to claim 2 characterized in that the functional effective center of gravity of all flow resistances of the overflow throttle (15) is disposed on the side of the smaller becoming spring damper chamber (13).

4. Gas spring damper unit according to claim 3 characterized in that the flow resistance of each overflow throttle (15) is determined by the length of the throttle, the cross-section of the throttle, the shape of the throttle and/or the wall properties of the throttle.